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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/485,533	06/09/2000	EUGENIE CHARRIERE	004900-172	2035

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EXAMINER
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SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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01/07/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/485,533	<b>Applicant(s)</b> CHARRIERE ET AL.	
	<b>Examiner</b> Rabon Sergent	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 59-62, 66, 67 and 69-77 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 59-62, 66, 67 and 69-77 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

1. The Notice of Non-Compliant Amendment, mailed March 18, 2008, has been withdrawn, as it was sent out in error.

2. Claims 59-62, 66, 67, and 69-77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, applicants have failed to provide a basis for the claimed weight percent values for the carbamate function of claim 59, the carbamate group(s) of claims 66 and 70, and the carbamate of claim 77. It is unclear if the percent value is based on the weight of a particular component or a composition or some other entity.

Secondly, it is not seen that the subject matter of claim 77 further limits claim 59, since claim 59 has been amended to require a content of at least 1 weight % of at least one carbamate function.

Thirdly, with respect to line 2 of claim 70, the language, "the compound formed according to the formula III", is not understood. It is unclear what is meant by "formed according to"; it is unclear if the language means something other than the compound having the claimed structure of formula III.

Fourthly, it is unclear how to reconcile claim 69 in view of the proviso requirement within claim 70. Claim 69 does not appear to require the proviso, because the language of the claim does not appear to allow for it; however, independent claim 70 requires that the proviso be in effect when groups of formula (V) are present.

3. Claims 59-62, 66, 67, and 69-77 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Despite applicants' response, the examiner has not found support for the amended subject matter of the claims with respect to the at least 1 weight % carbamate limitations. Furthermore, it is unclear how the amended subject matter of claims 69 and 70 is supported by the application as filed. The examiner has reviewed the cited locations within the specification; however, given the complexity of the claims and specification, a concise explanation of how the application as filed supports the amended subject matter is required.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 69, 71, and 72 are rejected under 35 U.S.C. 102(b) as being anticipated by Haberle ('176) or Weyland et al. ('421) or WO 97/23536.

Each reference discloses allophanate modified polyisocyanates produced by reacting excess amounts of diisocyanates, such as hexamethylene diisocyanate or isophorone diisocyanate, with simple polyhydric alcohols, such as trimethylolpropane. See column 3, lines 5-14 within Haberle. See column 2, lines 28-39 within Weyland et al. See page 10, lines 4-14 within WO 97/23536. The position is taken that the disclosed allophanate modified polyisocyanates possess a structure that satisfies applicants' formula III. Since the references disclose the reaction of isocyanates with hydroxyl functional compounds, the position is taken that the carbamate limitation is satisfied, given the low content of carbamate groups required to be present.

6. Applicants have argued that claim 69 now depends on claim 70, and since claim 70 was not rejected, the rejection is now moot. In response, the rejection has been maintained in view of the 35 USC 112 issues noted within paragraph 2. As drafted, it cannot be absolutely determined that claim 69 is subject to the proviso requirement of claim 70.

7. Claims 66 and 69-76 are rejected under 35 U.S.C. 102(b) as being anticipated by Malofsky et al. ('135).

Patentees disclose low viscosity polyisocyanates containing uretdione and allophanate groups and their use with polyester polyols or polyacrylate polyols to yield coating compositions. The polyisocyanates are produced by dimerizing and allophanizing a (cyclo)aliphatic

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diisocyanate in the presence of a polyalcohol, such as trimethylolpropane or pentaerythritol. See abstract; column 6, lines 35+; column 7, lines 1-24; column 8, lines 38 and 39; column 10, lines 43+; and Examples. In view of the disclosed low degree of dimerization conversion at the point that the polyalcohol component is added, the position is taken that compounds that correspond to formulas X, II, and III, and mixtures of these compounds inherently result from the disclosed process. Since the reference discloses the reaction of isocyanates with hydroxyl functional compounds, the position is taken that the carbamate limitation is satisfied, given the low content of carbamate groups required to be present.

8. The examiner has considered applicants' response; however, the response appears to (1) simply restate claims 66 and 70 and (2) state that the claims are not anticipated by Malofsky et al. for the reasons noted above. In response, it is unclear what reasons are being referred to, because it does not appear that any reasons traversing the rejection have been set forth. Furthermore, aside from stating that the inherency position is traversed, applicants provide no rationale to support their traversal. Accordingly, applicants' response fails to provide any relevant explanation as to why the claims are patentable over the relied upon prior art.

9. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malofsky et al. ('135).

As aforementioned, patentees disclose low viscosity polyisocyanates containing uretdione and allophanate groups. The polyisocyanates are produced by dimerizing and allophanizing a (cyclo)aliphatic diisocyanate in the presence of a polyalcohol, such as trimethylolpropane or pentaerythritol. See abstract; column 6, lines 35+; column 7, lines 1-24; column 8, lines 38 and 39; and Examples. In view of the disclosed low degree of dimerization

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conversion at the point that the polyalcohol component is added, the position is taken that compounds that contain carbamate groups and compounds that correspond to formulas X, II, and III, and mixtures of these compounds result from the disclosed process. Though patentees are silent regarding the specific incorporation of isocyanurates or biurets into the uretdione and allophanate containing compositions, patentees clearly provide for the use of triisocyanates within the process and clearly allow for the presence of isocyanate based functional groups in addition to the uretdione groups and allophanate groups (see column 1, lines 11-15 and column 7, lines 4-24). Furthermore, within the Background of the Invention, patentees disclose that the use of modified trimers to reduce polyisocyanate viscosity yet maintain or increase functionality was well known at the time of invention. Therefore, since patentees allow for the use of triisocyanates and the presence of additional isocyanate derived groups and further disclose that the use of modified trimers to control viscosity and functionality was known, the position is taken that it would have been obvious to one of ordinary skill in the art to incorporate isocyanurate or biuret trimers into the composition for their art recognized function of maintaining or increasing functionality while controlling viscosity.

10. Applicants have stated that the examiner's position with respect to the use of trimers to control viscosity has not been supported by any appropriate prior art references and requested that an objective teaching be identified. In response and as aforementioned within the rejection, the teachings stem from the disclosures within the Background of the Invention of Malofsky et al. The examiner has reviewed the teachings and finds that he should have been more precise in his explanation of why one would incorporate trimers into the composition. Still, the relied upon prior art teachings make clear the advantages of using trimers to maintain or increase

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functionality while allowing the control of such parameters as viscosity. Applicants further traverse the examiner's position that the process of Malofsky et al. will yield the aforementioned formulas. In response, the rationale provided within the rejection is maintained; since the same isocyanate compounds and active hydrogen compounds are being utilized and since a low degree of dimerization conversion is disclosed, it is logical that the argued groups would result from the reaction between the isocyanate groups and hydroxyl groups.

11. Claims 59-62 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malofsky et al. ('135) in view of Muller et al. ('171).

As aforementioned, Malofsky et al. disclose low viscosity polyisocyanates containing uretdione and allophanate groups, produced by dimerizing and allophanizing a (cyclo)aliphatic diisocyanate in the presence of a polyalcohol, such as trimethylolpropane or pentaerythritol. See abstract; column 6, lines 35+; column 7, lines 1-24; column 8, lines 38 and 39; and Examples. Also, for the reasons previously set forth, Malofsky et al. are considered to satisfy applicants' claimed carbamate limitation.

12. Malofsky et al. differ primarily from applicants in that Malofsky et al. disclose the use of dimerization catalyst, whereas applicants exclude a dimerization catalyst. However, the position is taken that it was known at the time of invention that dimerization of polyisocyanates may be performed in the absence of a catalyst. Muller et al. disclose at column 3, lines 31-36 that dimerization of polyisocyanates may be performed in the absence of a catalyst by heating to temperatures of 120°C to 150°C. Muller et al. further disclose that aliphatic diisocyanates, such as hexamethylene diisocyanate, may be dimerized. See column 4, lines 20+. Though Muller et al. are silent regarding applicants' claimed time frame, the position is taken that adjusting the



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heating time amounts to the obvious optimization of a result effective variable, since, at a given temperature, one would have expected that conversion and the degree of ring cleavage is dependent upon reaction time. Accordingly, since it was known that polyisocyanates can be dimerized simply by heating in the absence of a catalyst, the position is taken that one of ordinary skill in the art would have realized that the dimerization catalyst of Malofsky et al. could be deleted and that one of ordinary skill would have been motivated to do so, so as to eliminate the requirement for an additional component and to eliminate the requirement that the dimerization catalyst be deactivated or poisoned.

13. With respect to the requirement set forth within claim 60, though Malofsky et al. are silent regarding the specific addition of components that correspond to formulas II or III; as aforementioned, the position is taken that Malofsky et al. encompass such compounds, since they result from the reaction of the disclosed polyalcohol. Accordingly, it would have been obvious to modify the polyalcohols of Malofsky et al. by prereacting them with isocyanate, prior to their introduction into the reaction system. Such a modification would have been obvious to the skilled artisan and would have allowed more definite control of the final product by permitting more control of the groups to be reacted.

14. Applicants have argued that Muller et al. fail to cure the deficiencies of Malofsky et al., previously set forth within their response. In response, the argued deficiencies with respect to Malofsky et al. have been addressed above within paragraphs 8 and 10.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Rabon Sergent at telephone number (571) 272-1079.

/Rabon Sergent/  
Primary Examiner, Art Unit 1796

R. Sergent  
January 5, 2009